
Tear Gas & Health Effects

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Energy and Environment
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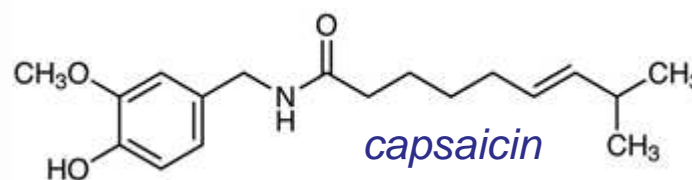
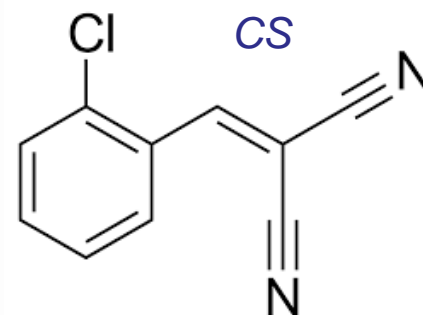
What is tear gas?

- Term commonly used to refer to several riot control agents that temporarily constrain people by causing irritation to the eyes, mouth, throat, lungs, and skin
- Examples include
 - chlorobenzylidenemalononitrile (CS)
 - oleoresin capsicum (OC; pepper spray)



Pepper Ball (size of a cherry). Firm's website states this model contains 2.5 g of CS irritant powder. "Excellent for direct impact or area saturation."

Source: C&EN Article



Known health effects

The extent of health effects depends on many factors, such as:

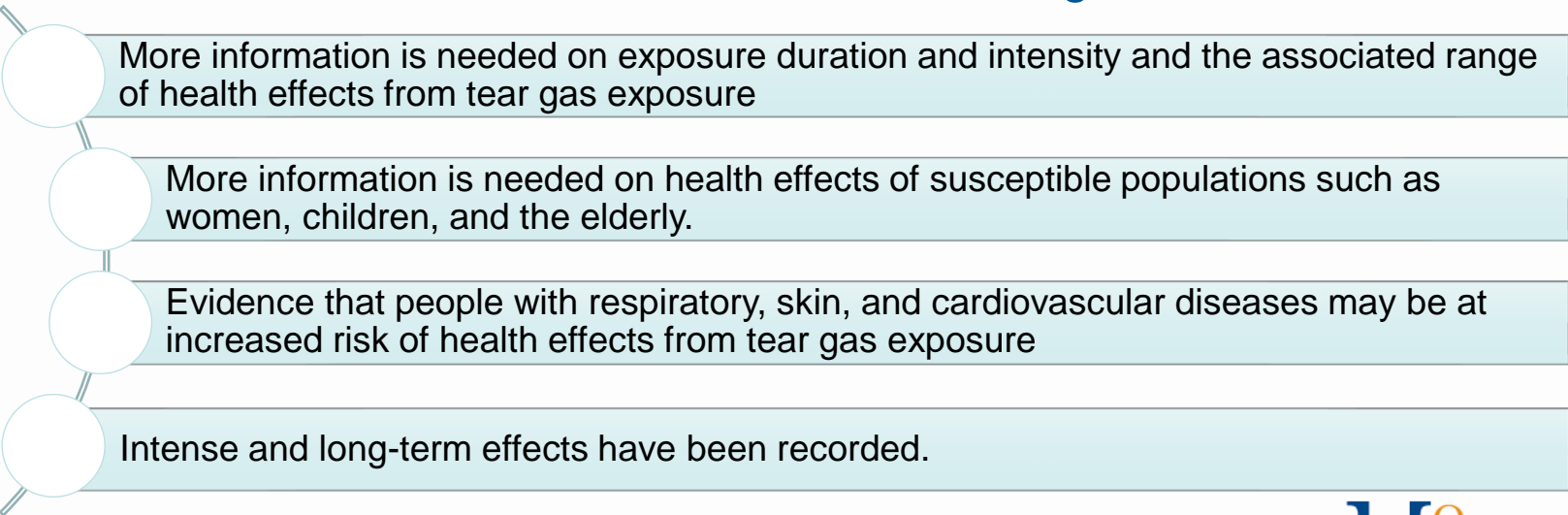
- Amount of tear gas a person was exposed to
- Amount of time the exposure occurred for
- Location of exposure (open or closed space)
- Weather (temperature and humidity)
- Area of the body exposed
- Person's preexisting medical conditions

Short-term health effects

- Within seconds of exposure (20-60 seconds), tear gases irritate the area of contact. Irritation primarily occurs in the eyes, respiratory system, and skin.
 - **Eyes:** excessive tearing, burning, blurred vision, redness
 - **Nose:** runny nose, burning, swelling
 - **Mouth:** burning, irritation, difficulty swallowing, drooling
 - **Lungs:** chest tightness, coughing, wheezing, shortness of breath
 - **Skin:** burns, rash, blisters
 - **Behavioral health and trauma:** Need more information particularly among communities of color and tribal communities
 - **Other:** nausea, vomiting, panic, and agitation
- **If leave exposure area and clean off, most symptoms usually resolve within 30 minutes.**
- **Potentially more severe symptoms with longer exposures or intensity.**

Long-term health effects

- CDC: Prolonged exposure to tear gas chemicals may lead to long-term eye and breathing problems. If symptoms go away soon after a person is removed from exposure, long-term health effects are unlikely to occur.
- Behavioral health and trauma: Need more information particularly among communities of color and tribal communities
- Two review studies* concluded the following:



More information is needed on exposure duration and intensity and the associated range of health effects from tear gas exposure

More information is needed on health effects of susceptible populations such as women, children, and the elderly.

Evidence that people with respiratory, skin, and cardiovascular diseases may be at increased risk of health effects from tear gas exposure

Intense and long-term effects have been recorded.

Resources for someone exposed

- Healthcare provider
- Poison control center (1-800-222-1222)
- [CDC fact sheet](#) on riot control agents
- [CDC webpage](#) on personal cleaning and disposal of contaminated clothing post-exposure
- [CDC webpage](#) on riot control agent poisoning
- [OHA webpage](#) on tear gas